Лікувальна фізична культура, спортивна медицина й фізична реабілітація

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FEATURES OF THE VEGETATIVE REGULATION OF DEMOBABILIZED BATTLE PARTICIPANTS

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Abstract

The data of 50 mobilized participants of the antiterrorist operation (ATO) on the territory of eastern Ukraine, who are undergoing treatment and rehabilitation in the Volyn Regional Hospital of War Veterans, are presented. Due to the data obtained: middle age, period of service in the combat zone, causes of hospitalization, features of local dermographism, a «model» of the ATO participant was formed. The results of the pilot study showed that the average age of the military man was 34,88 ± 9,44 years old (the youngest soldier was 21 years old and the oldest of them was 59 years old). Half (50 %) of the defendants were aged 26–35. The period of the military service is 8,5 ± 4,4 months (from 2 to 16 months). 42 % of the respondents are getting inpatient treatment for the first time, while 58 % of them are undergoing treatment and rehabilitation for the second time. The causes of hospitalization in 56 % of cases were wounds in the ATO area, and in 44 % – deterioration of chronic diseases or primary pathological changes. According to local dermographism, it has been established that more than two thirds of hospitalized participants of the ATO due to the vegetative «passport» are sympathologists and only one third – vagotonics. Among the battle participants, 68 % of the sympathologists and 32 % of the vagotonics were injured. 64 % of the sympathlogists and 36 % of the vagotonics were hospitalized with health deterioration. Taking into account the obtained data, a «model» of a mobilized ATO participant is formed – a young male sympathologist, at the age of 35, has done military service for 8,5 months during which was wounded, undergoes second treatment and rehabilitation.

Key words: ATO participant, vegetative regulation, rehabilitation.

Ольга Андрійчук, Тетяна Масікова, Дорота Ортенбургер, Руслан Ізмаїлов. Особливості вегетативної регуляції демобілізованих учасників бойових дій. Наведено дані 50 мобілізованих учасників антитерористичної операції (АТО) на території Сходу України, які проходять курс лікування та реабілітації у Волинському обласному госпіталі для ветеранів війни. На основі отриманих даних: середній вік, термін перебування в зоні бойових дій, причини госпіталізації, особливостей місцевого дермографізму сформувалася «модель» учасника АТО. Результати пілотного дослідження показали, що середній вік військових становив 34,88±9,44 років (наймолодшому бійцеві – 21 рік; найстаршому – 59). Половина (50 %) з опитаних захисників віком 26–35 років. Термін перебування на військовій службі – 8,5±4,4 міс. (від двох до 16 міс.). 42 % респондентів на стаціонарному лікуванні перебувають уперше, у той час як 58 % повторно проходять курс лікування та реабілітації. Причинами госпіталізації в 56 % випадків були отримані поранення в зоні АТО, а в 44 % – загострення хронічних захворювань або первинні патологічні зміни. За даними місцевого дермографізму, установлено, що понад дві третини госпіталізованих учасників АТО за вегетативним «паспортом» є симпатотониками й лише третина – ваготониками. Серед учасників бойових дій поранення отримали 68 % симпатотоніків і 32 % ваготоніків. Із погіршенням у стані здоров'я госпіталізовано 64 % симпатотоніків і 36 % ваготоніків. Ураховуючи отримані дані, формуємо «модель» мобілізованого учасника АТО – це молодий мужчина-симпатотонік віком 35 років, на військовій службі перебував 8,5 місяця, отримав бойові поранення, повторно проходить курс лікування та реабілітації.

Ключові слова: учасник АТО, вегетативна регуляція, реабілітація.

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Ольга Андрийчук, Татьяна Масикова, Дорота Ортенбургер, Руслан Измаилов. Особенности вегетативной регуляции демобилизованных участников боевых действий. Приведены данные 50 мобилизованных участников антитеррористической операции (АТО) на территории Востока Украины, которые проходят курс лечения и реабилитации в Волынском областном госпитале ветеранов войны. На основе полученных данных: средний возраст, срок пребывания в зоне боевых действий, причины госпитализации, особенностей местного дермографизма – сформировалась «модель» участника АТО. Результаты пилотного исследования показали, что средний возраст военных составлял 34,88 ± 9,44 лет (самому молодому бойцу – 21 год; старшему – 59 лет). Половина (50 %) опрошенных защитников имеют возраст 26–35 лет. Срок пребывания на военной службе – 8,5 ± 4,4 мес. (от двух до 16 мес.). 42 % респондентов на стационарном лечении находятся впервые, в то время как 58 % – повторно проходят курс лечения и реабилитации. Причинами госпитализации в 56 % случаев были полученные ранения в зоне АТО, а в 44 % – обострение хронических заболеваний или первичные патологические изменения. По данным местного дермографизма, установлено, что более двух третей госпитализированных участников АТО по вегетативном «паспорте» являются симпатотониками и только треть – ваготониками. Среди участников боевых действий ранения получили 68 % симпатотоников и 32 % ваготоников. С ухудшением в состоянии здоровья госпитализированы 64 % симпатотоников и 36 % ваготоников. Учитывая полученные данные, формируем «модель» мобилизованого участника АТО – это молодой мужчина-симпатотоник в возрасте 35 лет, на военной службе находился 8,5 месяцев, получил боевые ранения, повторно проходит курс лечения и реабилитации.

Ключевые слова: участник АТО, вегетативная регуляция, реабилитация.

Introduction. In recent years, the modern healthcare system has faced the need for a solution of an important issue – the treatment and rehabilitation of patients who participated in the anti–terrorist operation (ATO) in eastern Ukraine. The solution of this problem requires a multi–system approach, as there are unique psychological p perceptions of its new status, the response to a temporary disorder of health, illness, and the surrounding situation in this category of personalities . The nonconstructive changes in behavioral reactions, maladaptive syndrome (A.V. Shvets, A. Yu. Kih, A. M. Volyansky, I. A. Lukianchuk) develop post-traumatic stress and disorder in the military (M. M. Matiash, L. I. Khudenko). According to some researches (V. I. Shevchuk, N. M. Belyaev, O. B. Yavorovenko, I. V. Kurilenko, A. Yu. Galyutin), as a result of combat operations, 59,3 % of victims have post–traumatic lesions of the abdominal cavity, thorax , diseases of the digestive system, respiratory organs, cardiovascular diseases. Most ATO soldiers were recognized as disabled or as people with a certain percentage of permanent disability, and according to scientists: N. M. Belyaeva, O. B. Yavorovenko, I. V. Kurylenko, Yu. A. Danilenko, G. V. Pavlichenko, the causes of disability were not only the consequences of injuries, contusions, injuries, but, also, persistent disorders of the body's function, which led to limitation of life due to diseases that were obtained during military events. All of these requires a particular approach to the planning of treatment tactics and the creation of an individual rehab program, including physical and socio–psychological rehabilitation.

The question of the need for detailed study of the influence of the ATO factors on its participants is raised not only by practicing doctors, rehabilitants, scientists, but also determined by lawmakers at the governmental level. Thus, in the concept of the Government Target program on physical, medical, psychological rehabilitation and social and professional re-adaptation of the participants of the antiterrorist operation for the period up to 2022, it has been stipulated that the experience of the years shows that there is no effective system of rehabilitative services and in the government for those people who took part in the antiterrorist operation. Healthcare institutions, rehabilitation institutions and adaptation centers are not ready for the full implementation of the tasks related to the aforementioned problems.

The purpose of our research is to study and generalize the individual data of ATO participants, the features of their vegetative «passport». This approach, based on a personality–centered approach, will help to predict and create programs for rehab and new treatment.

Methods of research: study and analysis of modern scientific and methodological developments on selected topics; research of local demographics by the method of mechanical irritation and determination of reflex–response of neurovascular skin formations; mathematical processing of data using the Med Stat program.

Research Results. The study involved 50 demobilized ATO participants undergoing treatment and rehabilitation in the Volyn Regional Hospital of Veterans of the War.

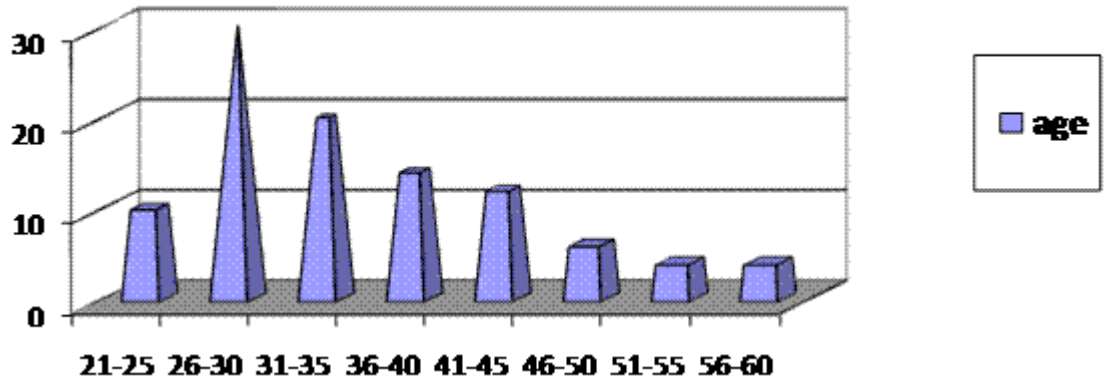
All examined ATO participants agreed to the processing of their data. Questionnaires were conducted anonymously. According to the questionnaire, the average age of the military was 34,88 ± 9,44 years (the youngest soldier was 21 years old and the oldest was 59 years old.) The distribution of patients by age showed the following result: 30 % of men aged 26–30; 20 % of ATO participants aged 31–35 years; 14 % of the military who undergo treatment and rehabilitation at the age of 36–40 years; 12 % – at the age of 41–45; 10 % of boys aged 21–25 years old and 4 % of persons aged 51–55 and 56–60 years old. The data is presented in the table 1 and graphically shown in pic. 1.

Table 1

The Age Distribution of ATO Members who are on Inpatient Treatment and Rehabilitation Phase

Age	n	%
21–25	5	10
26–30	15	30
31–35	10	20
36–40	7	14
41–45	6	12
46–50	3	6
51–55	2	4
56–60	2	4
∑	50	100

Such data show that the largest cohort of our defenders is young men aged 26 to 35 years.



Pic. 1. *The age Distribution of ATO Participants who are in the Stationary Stage of Treatment and Rehabilitation, %*

Among the respondents who participated in the study, 21 people (42 %) entered the hospital for the first time, 29 people (58 %) were undergoing treatment and repeat rehabilitation. People first hospitalized with an average term of stay in the ATO zone was 9,3; 4,6 months (min – 2 months, max – 16 months). Among them, 9 people (43 %) were injured while performing military service, and 12 men (57 %) were hospitalized for the exacerbation of a chronic illness or a temporary deterioration in their health status.

29 soldiers (66 %) who received wounds in the ATO zone and 10 (34 %), who have been diagnosed with primary pathological changes, or recurrence of illness have been referred for re–hospitalization. The average term of military service in them was 7.8 ± 4,3 months (from 2 to 14 months).

Thus, in the inpatient treatment, there are 28 mobilized men (56 %) who received wounds in the ATO zone, and 22 military (44 %) whose exacerbated health is not related to injuries. The terms of stay in the military service is from 2 to 16 months (8,5 ± 4,4 months).

Participation in battle operations is usually a stressful situation for a person, which is reflected in the functioning of the nervous system. The manifestations of such changes depend on the vegetative «passport» of a person: a person vagotonic («owl», «styrian») or sympathologist («lark», «sprinter»). Depending on the predominance of the sympathetic or parasympathetic nervous system, there will be a corresponding human response, a clinical picture of the pathological process, and, as a result, an approach to treatment and rehabilitation will be as well.

A peculiar division of the military into vagotonics and sympathologists, was conducted by Alexander Macedonian. To determine which section of the autonomic nervous system dominates – sympathetic or parasympathetic, he gave a slap to the soldier and observed whether he was reddish or pale. In the first ranks, he put those who were red (sympathetic), and in the latter – those who were pale (vagotonics). As the sympatotonics have a quick reaction, they are ready to fight without hesitation, but they quickly spend their strength. After the exhaustion of the first rows (sympathologists) in the battle come the rear rows of soldiers (vagotonics), which are much hardier and are able to withstand the invasion of the enemy longer.

The study of the autonomic nervous system is an important diagnostic prognosis, since a person cannot control his influence on organs and systems. To determine which section of the autonomic nervous system predominates in ATO participants, we investigated local dermography. Local dermography is a local vasomotor response to a pricked irritation of the skin. Depending on the reaction, it is distinguished: a red dermography with a predominance of the parasympathetic nervous system and a white dermography – with the predominance of the sympathetic nervous system. Such research is only the initial stage of a thorough study of the peculiarities of a vegetative regulation of battle participants.

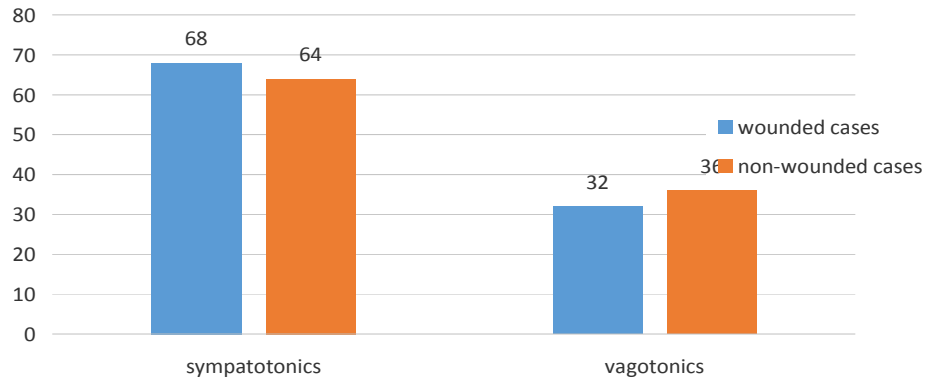
Among sympathologists (due to the dominant influence of the sympathetic nervous system), active and hard-working subjects (especially in the evening) predominate, however, it is noted that they have a decrease in concentration; they are emotionally tense with frequent manifestations of anxiety, hysteria, neurasthenia. Such individuals often overestimate their capabilities.

Vagotonics' (because of the predominance of the parasympathetic nervous system), work efficiency is better in the morning, however, they tend to have depression, indecision, they show no initiative and they manifest asthenization (fatigue or chronic fatigue, weakness). They pessimistically perceive themselves and everything in the environment.

Such psycho-emotional manifestations are due to the fact that the sympathetic section of the autonomic nervous system is responsible for stimulation, and parasympathetic – for relaxation.

Among 28 examined ATO participants who received injuries during battles, 19 people (68 %) have white dermographism, which is a characteristic of sympatotonics, and 9 soldiers (32 %) have red dermographism which is manifested in vagotonics.

Among 22 patients undergoing the treatment and rehabilitation course in non–wounded cases, 14 men (64 %) have white dermographism and 8 people (36 %) have red dermographism. Graphically, the data is shown in pic. 2.



Pic.2. *Distribution of ATO Participants Depending on the Vegetative «passport», %*

Analyzing the distribution data of the ATO participants which depends on the predominance of sympathetic or parasympathetic section of the autonomic nervous system, it appears that the vast majority of people are sympatotonics: 68 % got the injuries during military service, and 64 % had no battle injuries and were hospitalized due to deterioration of health. At the same time, the third part of the ATO participants undergoing treatment and rehabilitation are vagotonics with predominant parasympathetic nervous system dominance.

Basing on the results of research about dominant influence of autonomic nervous system, it is reasonable to include sedative therapy in the complex treatment and rehabilitation of sympatotoniks, and psycho-stimulant therapy for vahotoniks.

Conclusion. Summarizing the obtained data in research, we found that the ATO member who is undergoing treatment and rehabilitation – is a young man aged 26–30 years, hospitalized again, who has some battle injuries received during military service for period of 8,5 months. Depending on the vegetative regulation, the ATO participant is a sympatotoniks with all the effects of the sympathetic nervous system on the mood, readiness for the action, behavior, and current clinic picture.

In further plans of the research, we consider to study the response of the internal organs, depending on the diagnosis and functional characteristics of the autonomic nervous system.

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